

# **Bay Area Air Quality Management District**

939 Ellis Street  
San Francisco, CA 94109  
(415) 771-6000

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**Final**

## **MAJOR FACILITY REVIEW PERMIT**

**Issued To:**  
**Union Sanitary District**  
**Facility #A1209**

**Facility Address:**  
5072 Benson Road  
Union City, CA 94587

**Mailing Address:**  
5072 Benson Road  
Union City, CA 94587

**Responsible Official**  
Stephen T. Hayashi  
(510) 790-0100

**Facility Contact**  
James Chen  
(510) 790-0100

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**Type of Facility:** Municipal Wastewater Treatment Plant  
(Publicly Owned Treatment Works)  
**Primary SIC:** 4952  
**Product:** Treated Municipal Wastewater

**ISSUED BY THE BAY AREA AIR QUALITY MANAGEMENT DISTRICT**

Signed by Ellen Garvey  
\_\_\_\_\_  
Ellen Garvey, Air Pollution Control Officer

July 1, 1997  
\_\_\_\_\_  
Date

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## I. STANDARD CONDITIONS

### A. Administrative Requirements

The permit holder shall comply with all applicable requirements in the following regulations:

BAAQMD Regulation 1 - General Provisions and Definitions

(as amended by the District Board on 11/3/93);

SIP Regulation 1 - General Provisions and Definitions

(as approved by EPA through 11/10/82);

BAAQMD Regulation 2, Rule 1 - Permits, General Requirements

(as amended by the District Board on 6/7/95);

SIP Regulation 2, Rule 1 - Permits, General Requirements

(as approved by EPA through 6/23/95);

BAAQMD Regulation 2, Rule 2 - Permits, New Source Review

(as amended by the District Board on 6/7/95);

SIP Regulation 2, Rule 2 - Permits, New Source Review and Prevention of Significant Deterioration

(as approved by EPA through 10/19/84); and

BAAQMD Regulation 2, Rule 4 - Permits, Emissions Banking

(as amended by the District Board on 6/15/94).

### B. Conditions to Implement Regulation 2, Rule 6, Major Facility Review

1. This Major Facility Review Permit expires on July 1, 2002. The permit holder shall submit a complete application for renewal of this Major Facility Review Permit no later than January 1, 2002 and no earlier than July 1, 2001. **If a complete application for renewal has not been submitted in accordance with these deadlines, the facility may not operate after** June 30, 2002. (Regulation 2-6-307, 404.2, & 409.6; MOP Volume II, Part 3, §4.2)
2. The permit holder shall comply with all conditions of this permit. The permit consists of this document and all appendices. Any non-compliance with the terms and conditions of this permit will constitute a violation of the law and will be grounds for enforcement action; permit termination, revocation and reissuance, or modification; or denial of a permit renewal application. (Regulation 2-6-307; MOP Volume II, Part 3, §4.11)
3. In the event any enforcement action is brought as a result of a violation of any term or condition of this permit, the fact that it would have been necessary for the permittee to halt or reduce the permitted activity in order to maintain compliance with such term or condition shall not be a defense to such enforcement action. (MOP Volume II, Part 3, §4.11)
4. This permit may be modified, revoked, reopened and reissued, or terminated for cause. (Regulation 2-6-307, 409.8, 415; MOP Volume II, Part 3, §4.11)

## **I. Standard Conditions (continued)**

5. The filing of a request by the facility for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated non-compliance does not stay the applicability of any permit condition. (Regulation 2-6-409.7; MOP Volume II, Part 3, §4.11)
6. This permit does not convey any property rights of any sort, nor any exclusive privilege. (Regulation 2-6-409.7; MOP Volume II, Part 3, §4.11)
7. The permit holder shall supply within 30 days any information that the District requests in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit. (Regulation 1-441, Regulation 2-6-409.4 & 501; MOP Volume II, Part 3, §4.11)
8. Any records required to be maintained pursuant to this permit which the permittee considers to contain proprietary or trade secret information shall be prominently designated as such. Copies of any such proprietary or trade secret information which are provided to the District shall be maintained by the District in a locked confidential file, provided, however, that requests from the public for the review of any such information shall be handled in accordance with the District's procedures set forth in Section 11 of the District Administrative Code. (Regulation 2-6-419; MOP Volume II, Part 3, §4.11)
9. Proprietary or trade secret information provided to EPA will be subject to the requirements of 40 CFR Part 2, Subpart B - Public Information, Confidentiality of Business Information. (40 CFR Part 2)
10. The emissions inventory submitted with the application for this Major Facility Review Permit is an estimate of actual emissions for the time period stated and is included only as one means of determining applicable requirements for emission sources. It does not establish, or constitute a basis for establishing, any new emission limitations. (MOP Volume II, Part 3, §4.11)

### **C. Requirement to Pay Fees**

The permit holder shall pay annual fees in accordance with District Regulation 3, including Schedule P. (Regulation 2-6-402 & 409.13, Regulation 3; MOP Volume II, Part 3, §4.12)

### **D. Inspection and Entry**

Access to Facility: The permit holder shall provide reasonable access to the facility and equipment which is subject to this permit to the APCO and/or to his or her designee. (Regulation 1-440, Regulation 2-6-409.3; MOP Volume II, Part 3, §4.14)

### **E. Records**

Notwithstanding the specific wording in any requirement, all records for federally enforceable requirements shall be maintained for at least five years from the date of entry. (Regulation 2-6-501, Regulation 3; MOP Volume II, Part 3, §4.7)

## **I. Standard Conditions (continued)**

### **F. Monitoring Reports**

All required monitoring reports must be submitted to the District at least once every six months. All instances of non-compliance shall be clearly identified in these reports. The reports shall be certified by the responsible official as true, accurate, and complete. In addition, all instances of non-compliance with the permit shall be reported to the District's Compliance and Enforcement Division within 10 days of the discovery of the incident. Within 30 days of the discovery of any incident of non-compliance, the facility shall submit a written report including the probable cause of non-compliance and any corrective or preventative actions. (Regulation 2-6-502, Regulation 3; MOP Volume II, Part 3, §4.7)

### **G. Compliance Certification**

Compliance certifications shall be submitted annually by the responsible official of this facility to the Bay Area Air Quality Management District and to the Environmental Protection Agency. The certification must list each applicable requirement, the compliance status, whether compliance was continuous or intermittent, the method used to determine compliance and any other specific information required by the permit. The permit holder may satisfy this requirement through submittal of District-generated Compliance Certification forms. The certification should be directed to the District's Compliance and Enforcement Division, and a copy of the certification should be sent to the Environmental Protection Agency at the following address:

Director of the Air Division  
USEPA, Region IX  
75 Hawthorne Street  
San Francisco, CA 94105  
Attention: Air-3

(MOP Volume II, Part 3, §4.5 and 4.15)

### **H. Emergency Provisions**

1. The permit holder may seek relief from enforcement action in the event of a breakdown, as defined by Regulation 1-208 of the District's Rules and Regulations, by following the procedures contained in Regulations 1-431 and 1-432. The District will thereafter determine whether breakdown relief will be granted in accordance with Regulation 1-433. (MOP Volume II, Part 3, §4.8)
2. The permit holder may seek relief from enforcement action for a violation of any of the terms and conditions of this permit caused by conditions beyond the permit holder's reasonable control by applying to the District's Hearing Board for a variance pursuant to Health and Safety Code Section 42350. The Hearing Board will determine after notice and hearing whether variance relief should be granted in accordance with the procedures and standards set forth in Health and Safety Code Section 42350 et seq.

## **I. Standard Conditions (continued)**

Any variance granted by the Hearing Board from any term or condition of this permit which lasts longer than 90 days will be subject to EPA approval. (MOP Volume II, Part 3, §4.8)

3. Notwithstanding the foregoing, the granting by the District of breakdown relief or the issuance by the Hearing Board of a variance will not provide relief from federal enforcement unless the Major Facility Review Permit has been modified pursuant to Regulation 2, Rule 6. (MOP Volume II, Part 3, §4.8)

### **I. Severability**

In the event that any provision of this permit is invalidated by a court or tribunal of competent jurisdiction, or by the Administrator of the EPA, all remaining portions of the permit shall remain in full force and effect. (Regulation 2-6-409.5; MOP Volume II, Part 3, §4.10)

### **J. Accidental Release**

This facility is subject to 40 CFR Part 68, Chemical Accident Prevention Provisions. The permit holder shall submit a risk management plan (RMP) by the date specified in §68.10. The permit holder shall also certify compliance with the requirements of Part 68 as part of the annual compliance certification, as required by Regulation 2, Rule 6. (40 CFR Part 68, Regulation 2, Rule 6)

## II. EQUIPMENT LIST

### A. Permitted Source List

Each of the following sources has been issued a permit to operate pursuant to the requirements of BAAQMD Regulation 2-1-302.

**Table II-A**

S-#	Description	Make or Type	Model	Capacity
S-4	Reciprocating Engine, Rich burn	Waukesha IC Engine; Digester Gas Fueled	L5108G4	402 HP (Electrical Output = 300 KW)
S-14	Waste Gas Burner (Industrial Flare); Digester Gas Fired	Varec Digester Gas Burner	Varec	28 MM Btu/hr
S-15	Reciprocating Engine – Electrical Generator, Rich burn	Waukesha IC Engine; Digester Gas Fueled	9300	1005 HP (Electrical Output = 750 KW)
S-40	Hot Water Sludge Heating Boiler #4	Weil McLain Steam Boiler; Digester Gas Fired, Front Firing, Forced Draft	R8-SG07GP10 1LH301R1	1.4 MM Btu/hr max
S-41	Hot Water Sludge Heating Boiler #5	Weil McLain Steam Boiler; Digester Gas Fired, Front Firing, Forced Draft	R8-SG07GP10 1LH301R1	1.4 MM Btu/hr max
S-42	Waste Gas Burner #3 (Industrial Flare)	Varco; Digester Gas Fired	5,170,000 Btu/hr	5.17 MM Btu/hr
S-43	Hot Water Boiler (digester gas, natural gas)	Cleaver-Brooks	700-200-125/FGR	8370K Btu/hr max
S-100	Wastewater Treatment Plant	Custom	N/A	48 MM gal/day capacity
S-101	Gasoline Dispensing Island	Emco Wheaton	A3003/A3005	1,000 gal
S-102	Diesel Storage Tank	Custom	N/A	10,000 gallon capacity, 7.11 ft diameter
S-110	Preliminary Treatment	Custom	N/A	48 MM gal/day capacity
S-111	Preliminary Treatment, 3 Barscreens	Custom	N/A	48 MM gal/day capacity

(continued)

## II. Equipment List (continued)

### A. Permitted Source List (continued)

**Table II-A (continued)**

<b>S-#</b>	<b>Description</b>	<b>Make or Type</b>	<b>Model</b>	<b>Capacity</b>
S-120	Primary Treatment	Custom	N/A	48 MM gal/day capacity
S-130	Secondary Treatment	Custom	N/A	48 MM gal/day capacity
S-131	Secondary Treatment	Custom	N/A	48 MM gal/day capacity
S-135	Secondary Treatment, INKA Process	Custom	N/A	48 MM gal/day capacity
S-140	Secondary Treatment; Clarifiers	Custom	N/A	48 MM gal/day capacity
S-145	Secondary Treatment, INKA Clarifiers	Custom	N/A	3.5 MM gal/day capacity
S-150	Disinfection	Custom	N/A	48 MM gal/day capacity
S-160	Sludge Handling Processes	Custom	N/A	3.56 MM gal/day capacity
S-161	Sludge Handling - Gravity Thickeners	Custom	N/A	3.56 MM gal/day capacity
S-162	Sludge Handling - Solids Handling Building	Custom	N/A	250,000 gal/day capacity
S-163	Sludge Handling - Pumping Station	Custom	N/A	43.2 MM gal/day capacity
S-164	Sludge Handling - Gravity Belt Thickeners	Custom	N/A	360,000 gal/day capacity
S-165	Water Reclamation	Custom	N/A	250,000 gal/day capacity
S-170	Anaerobic Digester	Custom	N/A	250,000 gal/day capacity



## II. Equipment List (continued)

### B. Abatement Device List

**Table II-B**

<b>A-#</b>	<b>Description</b>	<b>Source(s) Controlled</b>	<b>Applicable Requirement</b>	<b>Operating Parameters</b>	<b>Required Efficiency</b>
A-1	Permanganate Air Scrubber	S-110	BAAQMD Reg. 1-301	none listed	N/A
A-2	Permanganate Air Scrubber	S-110	BAAQMD Reg. 1-301	none listed	N/A
A-3	Permanganate Air Scrubber	S-160	BAAQMD Reg. 1-301	none listed	N/A
A-4	Permanganate Air Scrubber	S-160	BAAQMD Reg. 1-301	none listed	N/A
A-5	Turbulator	S-15		none listed	N/A
A-20	Atomizer Scrubber	S-110	BAAQMD Reg. 1-301	none listed	N/A
A-21	Atomizer Scrubber	S-120	BAAQMD Reg. 1-301	none listed	N/A
A-22	Atomizer Scrubber	S-130	BAAQMD Reg. 1-301	none listed	N/A
A-23	Atomizer Scrubber	S-120	BAAQMD Reg. 1-301	none listed	N/A
A-24	Atomized Mist Scrubber	S-110, S-111	BAAQMD Reg. 1-301	none listed	N/A
A-25	Atomized Mist Scrubber	S-110, S-111	BAAQMD Reg. 1-301	none listed	N/A
A-26	Atomized Mist Scrubber	S-160, S-164	BAAQMD Reg. 1-301	none listed	N/A
A-27	Atomized Mist Scrubber	S-160, S-164	BAAQMD Reg. 1-301	none listed	N/A
A-28	Atomized Mist Scrubber	S-130	BAAQMD Reg. 1-301	none listed	N/A
A-29	Atomized Mist Scrubber	S-130, S-131	BAAQMD Reg. 1-301	none listed	N/A
A-30	Atomizer Scrubber	S-130, S-131	BAAQMD Reg. 1-301	none listed	N/A

(continued)

## II. Equipment List (continued)

### *B. Abatement Device List (continued)*

**Table II-B** (continued)

<b>A-#</b>	<b>Description</b>	<b>Source(s) Controlled</b>	<b>Applicable Requirement</b>	<b>Operating Parameters</b>	<b>Required Efficiency</b>
A-31	Atomized Mist Scrubber	S-135	BAAQMD Reg. 1-301	No detection of odorous breakthrough	N/A
A-32	Atomizer Scrubber	S-130	BAAQMD Reg. 1-301	none listed	N/A
A-33	Atomizer Scrubber	S-160, S-161, S-163	BAAQMD Reg. 1-301	none listed	N/A
A-34	Atomizer Scrubber	S-160, S-162	BAAQMD Reg. 1-301	none listed	N/A
A-35	Atomizer Scrubber	S-160, S-162	BAAQMD Reg. 1-301	none listed	N/A
A-36	Atomizer Scrubber	S-160	BAAQMD Reg. 1-301	none listed	N/A
A-37	Soil Odor Scrubber	S-135	BAAQMD Reg. 1-301	No detection of odorous breakthrough	N/A

### III. GENERAL APPLICABLE REQUIREMENTS

The permit holder shall comply with all applicable requirements, including those specified in the BAAQMD and SIP Rules and Regulations and other federal requirements cited below. These requirements apply in a general manner to the facility and/or to sources exempt from the requirement to obtain a District Permit to Operate. The District has determined that these requirements would not be violated under normal, routine operations, and that no additional periodic monitoring or reporting to demonstrate compliance is warranted. In cases where a requirement, in addition to being generally applicable, is also specifically applicable to one or more sources, the requirement and the source are also included in Section IV, Source-Specific Applicable Requirements, of this permit.

The dates in parenthesis in the Title column identify the versions of the regulations being cited and are, as applicable:

1. BAAQMD regulation(s):  
The date(s) of adoption or most recent amendment of the regulation by the District Board
2. Any federal requirement, including a version of a District regulation that has been approved into the SIP:  
The most recent date of EPA approval of any portion of the rule, encompassing all actions on the rule through that date

Where an applicable requirement is a SIP requirement, the full language of the SIP requirement is included in Appendix A of this permit.

Applicable Requirement	Regulation Title or Description of Requirement	FE (Y/N)
BAAQMD Regulation 1	General Provisions and Definitions (11/3/93)	N
SIP Regulation 1	General Provisions and Definitions (11/10/82)	Y
BAAQMD Regulation 4	Air Pollution Episode Plan (3/20/91)	N
SIP Regulation 4	Air Pollution Episode Plan (8/06/90)	Y
BAAQMD Regulation 5	Open Burning (11/2/94)	N
SIP Regulation 5	Open Burning (5/3/84)	Y
BAAQMD Regulation 6	Particulate Matter and Visible Emissions (12/19/90)	N
SIP Regulation 6	Particulate Matter and Visible Emissions (5/3/84)	Y
BAAQMD Regulation 7	Odorous Substances (3/17/82)	N
BAAQMD Regulation 8, Rule 1	Organic Compounds - General Provisions (6/15/94)	Y
BAAQMD Regulation 8, Rule 2	Organic Compounds - Miscellaneous Operations	Y
BAAQMD Regulation 8, Rule 3	Organic Compounds - Architectural Coatings (12/20/95)	N

Facility Name: Union Sanitary District  
Final Permit for Facility #: A1209  
Expiration Date: 7-1-02  
ID: REF

### **III. General Applicable Requirements (continued)**

### III. General Applicable Requirements (continued)

Applicable Requirement	Regulation Title or Description of Requirement	FE (Y/N)
SIP Regulation 8, Rule 3	Organic Compounds - Architectural Coatings (11/16/83)	Y
BAAQMD Regulation 8, Rule 49	Organic Compounds - Aerosol Paint Products (12/20/95)	N
SIP Regulation 8, Rule 49	Organic Compounds - Aerosol Paint Products (3/22/95)	Y
BAAQMD Regulation 8, Rule 51	Organic Compounds - Adhesive and Sealant Products (12/20/95)	N
BAAQMD Regulation 9, Rule 1	Inorganic Gaseous Pollutants - Sulfur Dioxide (3/15/95)	N
SIP Regulation 9, Rule 1	Inorganic Gaseous Pollutants - Sulfur Dioxide (5/3/84)	Y
BAAQMD Regulation 9, Rule 2	Inorganic Gaseous Pollutants - Hydrogen Sulfide (3/17/82)	
BAAQMD Regulation 11, Rule 2	Hazardous Pollutants - Asbestos Demolition, Renovation and Manufacturing (12/4/91)	Y
BAAQMD Regulation 12, Rule 4	Miscellaneous Standards of Performance - Sandblasting (7/11/90)	N
SIP Regulation 12, Rule 4	Miscellaneous Standards of Performance - Sandblasting (9/2/81)	Y

#### IV. SOURCE-SPECIFIC APPLICABLE REQUIREMENTS

The permit holder shall comply with all applicable requirements, including those specified in the BAAQMD and SIP Rules and Regulations and other federal requirements cited below. The requirements cited in the following tables apply in a specific manner to the indicated source(s).

The dates in parenthesis in the Title column identify the versions of the regulations being cited and are, as applicable:

1. BAAQMD regulation(s):  
The date(s) of adoption or most recent amendment of the regulation by the District Board
2. Any federal requirement, including a version of a District regulation that has been approved into the SIP:  
The most recent date of EPA approval of any portion of the rule, encompassing all actions on the rule through that date

The full text of each permit condition cited is included in Section VI, Permit Conditions, of this permit. Additionally, where an applicable requirement is a SIP requirement, the full language of the SIP requirement is included in Appendix A of this permit. All other text may be found in the regulations themselves.

**Table IV-A**  
**S-4, Reciprocating Engine, Digester Gas Fired**

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
<b>BAAQMD Regulation 9, Rule 8</b>	<b>Inorganic Gaseous Pollutants - Nitrogen Oxides and Carbon Monoxide from Stationary Internal Combustion Engines (1/20/93)</b>		
9-8-302	Emission Limits – Waste Derived Fuel Gas	N	
9-8-302.2	NOx Limits for Rich Burn Engines	N	
9-8-302.3	CO Limits	N	
<b>BAAQMD Condition #14853</b>			
part 1	Periodic monitoring (basis: Regulation 2-6-409.2)	Y	

#### IV. Source-Specific Applicable Requirements (continued)

**Table IV-B**  
**S-15, Reciprocating Engine, Digester Gas Fired**

<b>Applicable Requirement</b>	<b>Regulation Title or Description of Requirement</b>	<b>Federally Enforceable (Y/N)</b>	<b>Future Effective Date</b>
<b>BAAQMD Regulation 9, Rule 8</b>	<b>Inorganic Gaseous Pollutants - Nitrogen Oxides and Carbon Monoxide from Stationary Internal Combustion Engines (1/20/93)</b>		
9-8-302	Emission Limits - Waste Derived Fuel Gas	N	
9-8-302.2	NOx Limits for Rich Burn Engines	N	
9-8-302.3	CO Limits	N	
<b>BAAQMD Cond. 457</b>			
Part 1	NOx Emission Rate (Cumulative Increase)	Y	
Part 2	CO Emission Limit (Cumulative Increase)	Y	
Part 3	Engine Control & Operation (Cumulative Increase)	Y	
Part 4	Periodic Monitoring (basis: Regulation 2-6-409.2)	Y	

**Table IV-C**  
**S-40 Hot Water Sludge Heating Boiler, Stand-by Service**  
**S-41 Hot Water Sludge Heating Boiler, Stand-by Service**

<b>Applicable Requirement</b>	<b>Regulation Title or Description of Requirement</b>	<b>Federally Enforceable (Y/N)</b>	<b>Future Effective Date</b>
<b>BAAQMD Regulation 9, Rule 7</b>	<b>Inorganic Gaseous Pollutants - Nitrogen Oxides and Carbon Monoxide from Industrial, Institutional, and Commercial Boilers, Steam Generators, and Process Heaters (9/15/93)</b>		
9-7-111	Limited Exemption, Low Fuel Usage	N	
9-7-304	Low Fuel Usage Requirement	N	
<b>BAAQMD Cond. 389</b>			
part 1	Stack gas O2 (Reg. 9-7-304)	N	

#### IV. Source-Specific Applicable Requirements (continued)

**Table IV-D**  
**S-43, Hot Water Boiler, Digester or Natural Gas Fired**

<b>Applicable Requirement</b>	<b>Regulation Title or Description of Requirement</b>	<b>Federally Enforceable (Y/N)</b>	<b>Future Effective Date</b>
<b>BAAQMD Regulation 9, Rule 7</b>	<b>Inorganic Gaseous Pollutants - Nitrogen Oxides and Carbon Monoxide from Industrial, Institutional, and Commercial Boilers, Steam Generators, and Process Heaters (9/15/93)</b>		
9-7-301.1	Emission Limits-Gaseous Fuel-NOx	N	
9-7-301.2	Emission Limits-Gaseous Fuels-CO	N	
9-7-503	Records	N	
<b>BAAQMD Cond 9238</b>			
part 1	Fuel throughput (Cumulative Increase)	Y	
part 2	NOx Limit (BACT)	Y	
part 3	H2S Limit from Scrubbers (BACT)	Y	
part 4	Protocol for source testing (BACT)	Y	
part 5	Records (BACT)	Y	

**Table IV-E**  
**S-100, Municipal Wastewater Treatment Plant**

<b>Applicable Requirement</b>	<b>Regulation Title or Description of Requirement</b>	<b>Federally Enforceable (Y/N)</b>	<b>Future Effective Date</b>
<b>BAAQMD Regulation 8, Rule 2</b>	<b>Organic Compounds-Miscellaneous Operation (6/15/94)</b>	Y	
8-2-301	Miscellaneous Operations	Y	
<b>BAAQMD Cond 9236</b>			
part 1	Consequences of odor complaints (Reg. 1-301; Public Nuisance)	N	



#### IV. Source-Specific Applicable Requirements (continued)

**Table IV-F**  
**S-110, Preliminary Treatment**  
**S-111, Preliminary Treatment, 3 barscreens**  
**S-120, Primary Treatment**  
**S-130, Secondary Treatment**  
**S-140, Secondary Treatment**  
**S-150, Disinfection**  
**S-160 Sludge Handling Processes**  
**S-161, Sludge Handling-Gravity Thickenersng**  
**S-163, Sludge Handling-Pumping Station**  
**S-164, Sludge Handling-Gravity Belt Thickeners**  
**S-170, Anaerobic Digester**

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
BAAQMD Regulation 8, Rule 2	Organic Compounds-Miscellaneous Operation (6/15/94)	Y	
8-2-301	Miscellaneous Operations	Y	

**Table IV-G**  
**S-135 Secondary Treatment (INKA)**

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
BAAQMD Regulation 8, Rule 2	Organic Compounds-Miscellaneous Operation (6/15/94)	Y	
8-2-301	Miscellaneous Operations	Y	
BAAQMD Cond 9236			
part 1	Atomized Scrubber Abatement (Reg. 1-301; Public Nuisance)	N	
part 2	Consequences of detection of odors (Reg. 1-301; Public Nuisance)	N	

#### IV. Source-Specific Applicable Requirements (continued)

**Table IV-H**  
**S-165 Water Reclamation (0.25 MGD)**

<b>Applicable Requirement</b>	<b>Regulation Title or Description of Requirement</b>	<b>Federally Enforceable (Y/N)</b>	<b>Future Effective Date</b>
<b>BAAQMD Regulation 8, Rule 2</b>	<b>Organic Compounds-Miscellaneous Operation (6/15/94)</b>	Y	
8-2-301	Miscellaneous Operations	Y	
<b>BAAQMD Cond 11145</b>			
part 1	Water throughput (Cumulative Increase)	Y	
part 2	Records (Cumulative Increase)	Y	
part 3	Prohibition of odors (Reg. 1-301; Public Nuisance)	N	
part 4	Consequences of public nuisance odors (Reg. 1-301; Public Nuisance)	N	

#### IV. Source-Specific Applicable Requirements (continued)

**Table IV-I**  
**S-101, Gasoline Dispensing Island**

<b>Applicable Requirement</b>	<b>Regulation Title or Description of Requirement</b>	<b>Federally Enforceable (Y/N)</b>	<b>Future Effective Date</b>
<b>BAAQMD Regulation 8, Rule 7</b>	<b>Organic Compounds - Gasoline Dispensing Facilities (6/1/94)</b>		
8-7-301	Phase I Requirements	Y	
8-7-301.1	Requirement for CARB Phase I System	Y	
8-7-301.2	Installation of Phase I Equipment per CARB Requirements	Y	
8-7-301.3	Submerged Fill Pipes	Y	
8-7-301.4	P-V Valves on All Open Vent Pipes	Y	
8-7-301.5	Maintenance of Phase I Equipment per Manufacturers Guidelines	Y	
8-7-301.6	Leak-Free, Vapor-Tight	Y	
8-7-301.7	Poppetted Drybreaks	Y	
8-7-302	Phase II Requirements	Y	
8-7-302.1	Requirement for CARB Certified Phase II System	Y	
8-7-302.2	Maintenance of Phase II System per CARB Requirements	Y	
8-7-302.3	Maintenance of All Equipment as Specified by Manufacturer	Y	
8-7-302.4	Repair of Defective Parts Within 7 Days	Y	
8-7-302.5	Leak-Free, Vapor-Tight	Y	
8-7-303	Topping Off	Y	
8-7-304	Certification Requirements	Y	
8-7-306	Prohibition of Use	Y	
8-7-307	Posting of Operating Instructions	Y	
8-7-308	Operating Practices	Y	
8-7-309	Contingent Vapor Recovery Requirements	Y	
8-7-312	Removal of Gasoline	Y	
8-7-404	Certification of New Installations	Y	
8-7-501	Burden of Proof	Y	
8-7-502	Right of Access	Y	

## **V. SCHEDULE OF COMPLIANCE**

The permit holder shall continue to comply with all applicable requirements cited in Parts III and IV of this permit. The permit holder shall also comply with applicable requirements that become effective during the term of this permit.

## **VI. PERMIT CONDITIONS**

Any condition that is preceded by an asterisk is not federally enforceable.

### **A. Source Specific Permit Conditions**

#### **Condition #14853:**

For Source S-4, Reciprocating Engine, Rich burn

1. Effective upon effective date of approval of Regulation 9, Rule 8 into the California State Implementation Plan by EPA:  
The owner/operator shall ensure that an annual performance test is conducted in accordance with the District test procedures to demonstrate compliance with the NO<sub>x</sub> and CO limits. The owner/operator may submit an alternative monitoring plan to the District for approval. If the alternative monitoring plan is approved, the plan shall supercede the annual source test requirement. Approvals shall be processed using the permit modification procedure contained in Regulation 2, Rule 6. (Basis: Regulation 2-6-409.2)

#### **Condition # 457**

For S-15 Reciprocating Engine, Digester Gas Fired

1. The NO<sub>x</sub> (Calculated as NO<sub>2</sub>) emission rate from this engine shall not exceed 2 gram/hp-hr. (Basis: Cumulative Increase)
2. The CO Emission shall not exceed 550 pounds per day. (Basis: Cumulative Increase)
3. Union Sanitary shall maintain the following elements in its engine system and shall not operate this engine without them unless the District gives prior approval: (Basis: Cumulative Increase)
  - 3.1 Automatic Air-to-fuel control system
  - 3.2 Addition of ferrous chloride to the digester.
  - 3.3 Sulfide gas scrubbers (iron sponge) following the digester.
  - 3.4 Chemical element gas filter (Nelson Winslow).

## **VI. Permit Conditions (continued)**

### **A. Source Specific Permit Conditions (continued)**

- 3.5 Non-metallic gasketed joints in the engine exhaust system.
- 3.6 Lubricating oil which is relatively phosphorus and heavy metal free.

## **VI. Permit Conditions (continued)**

### **A. Source Specific Permit Conditions (continued)**

#### **Condition # 457**

For S-15 Reciprocating Engine, Digester Gas Fired

- 3.7 A turbulator thermal reactor with a centrifugal air blower to supply oxygen for combustion to reduce emissions as an exhaust emissions abatement measure.
4. The owner/operator shall ensure that an annual performance test is conducted in accordance with the District test procedures to demonstrate compliance with the NO<sub>x</sub> and CO limits. The owner/operator may submit an alternative monitoring plan to the District for approval. If the alternative monitoring plan is approved, the plan shall supercede the annual source test requirement. Approvals shall be processed using the permit modification procedure contained in Regulation 2, Rule 6. (Basis: Regulation 2-6-409.2)

#### **Condition # 389**

For S-40 & S-41 (Hot Water Sludge Heating Boilers # 4 & #5 respectively)

- \*1. S-40 and S-41 shall meet one of the following: a) Operate in a manner that maintain stack-gas oxygen concentrations at less than or equal to 3 percent by volume on a dry basis; or b) Tune at a frequency of at least once every twelve months by a technician as directed by the BAAQMD Manual of Procedures, Volume I, Chapter 5 (Basis: BAAQMD Regulation 9-7-304)

#### **Condition # 9238**

For S-43 Hot Water Boiler 200 HP

1. Throughput  
Digester gas usage at S-43 boiler shall not exceed 52.8 E3 MM Btu/yr (gross basis). (Basis: Cumulative Increase)
2. Flue Gas NO<sub>x</sub>, CO Concentrations  
The maximum S-43 flue gas NO<sub>x</sub> concentration shall not exceed 40 ppmv (@3% oxygen). The maximum S-43 flue gas CO concentrations shall not exceed 100 ppmv (@3% oxygen). (Basis: BACT)

## **VI. Permit Conditions (continued)**

### **A. Source Specific Permit Conditions (continued)**

#### **Condition # 9238**

For S-43 Hot Water Boiler 200 HP

3. Digester Gas H<sub>2</sub>S Content

Union Sanitary District shall operate the ferric chloride addition at S-161 to maintain the concentration of hydrogen sulfide in the digester gas being fired in S-43 at a level not to exceed 100 ppmv hydrogen sulfide. (Basis: BACT)

4. Source Testing

To demonstrate compliance with permit condition 2, above, Union Sanitary District shall within 60 days of startup of this source, conduct a District approved source test pursuant to the following protocols. Source test results shall be submitted to the District within 60 days of completion of the source test. (Basis: BACT)

Protocol-NO<sub>x</sub> Determination: The methods by which sample of exhaust gases are collected and analyzed to determine concentrations of nitrogen oxides are set forth in the District's Manual of Procedures, Volume IV, ST-13A.

Protocol-CO, O<sub>2</sub> Determination: The methods by which samples of exhaust gases are collected and analyzed to determine concentrations of carbon monoxide and stack gas oxygen are set forth in the District's Manual of Procedures, Volume IV, ST-6 (carbon monoxide) and ST-14 (oxygen).

5. Recordkeeping

To demonstrate compliance with permit conditions 1 and 3 above, USD shall keep monthly records (on site) of S-43 operation. Such records shall include hours of operation, quantities of fuel being fired, and average H<sub>2</sub>S concentration of the digester gas. Such records shall be maintained on site for a period of at least five years. The log shall be kept on site and made available to the District staff upon request. (Basis: Cumulative Increase, BACT, BAAQMD Regulation 2-6-501).

## **VI. Permit Conditions (continued)**

### **A. Source Specific Permit Conditions (continued)**

#### **Condition #9236**

For S-100 Municipal Wastewater Treatment Plant

**\*1. Nuisance**

In the event that a public nuisance odor source is identified at this facility, Union Sanitary District shall employ all measures, practices, or modifications necessary to abate the nuisance. (Basis: BAAQMD Regulation 1-301)

#### **Condition #9728**

For S-135 Secondary Treatment (INKA)

**\*1. Abatement**

S-135 Secondary Treatment Compressed Air Basins shall not be operated unless the basins are covered and vented to abatement device A-31 Atomized Mist Scrubber or A-37 Soil Odor Scrubber. (Basis: BAAQMD Regulation 1-301)

**\*2. Odor Detection**

Upon detection of odorous breakthrough, Union Sanitary District shall follow established operating procedures to abate the odors. (Basis: BAAQMD Regulation 1-301)

#### **Condition #11145**

For S-165 Water Reclamation, 0.25 MGD with 2 FLOC basins, 20' dia Clarifier, 2 granular media filters and 21 Mgal chlorine tank

1. The total throughput of wastewater treated at S-165 shall not exceed 0.25 Million Gallons in any single day. (Basis: Cumulative Increase)
2. The Daily throughput of wastewater to S-165 shall be recorded in a district-approved log. This log shall be kept on site for at least five years and made available to District staff on request. (Basis: Cumulative Increase, BAAQMD Regulation 2-6-501).
- \*3. S-165 shall not operate in such a manner so as to cause an odor public nuisance per Regulations 1-301 and 7-302. (Basis: BAAQMD Regulation 1-301)



## **VI. Permit Conditions (continued)**

### **A. Source Specific Permit Conditions (continued)**

#### **Condition #11145**

For S-165 Water Reclamation, 0.25 MGD with 2 FLOC basins, 20' dia Clarifier, 2 granular media filters and 21 Mgal chlorine tank

- \*4. If three or more BAAQMD Notices of Violation are received by the owner/operator of S-165 within a 40 day period, the owner/operator shall submit to the BAAQMD an application for an Authority to Construct additional odor abatement equipment as deemed necessary by the BAAQMD within 60 days of reviewing the third notice. (Basis: BAAQMD Regulation 1-301)

### **B. Facility-wide Permit Conditions**

None

## VII. APPLICABLE EMISSION LIMITS & COMPLIANCE MONITORING REQUIREMENTS

This section has been included only to summarize the applicable emission limits contained in Section IV, Source-Specific Applicable Requirements, of this permit. The following tables show the relationship between each emission limit and the associated compliance monitoring provisions, if any. The monitoring frequency indicates whether periodic (P) or continuous (C) monitoring is required. For periodic monitoring, the frequency of the monitoring has also been shown, either annual (A), quarterly (Q), monthly (M), daily (D), or on an event basis (E). No monitoring (N) has been required if the current applicable rule or regulation does not require monitoring, and the operation is unlikely to deviate from the applicable emission limit based upon the nature of the operation.

**Table VII-A**  
**S-4, Reciprocating Engine, Digester Gas Fired**

Pollutant	Emission Limit Citation	FE Y/N	Future Effective Date	Emission Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
NO <sub>x</sub>	BAAQMD 9-8-302.2	N <sup>1</sup>		210 ppmv @ 15% O <sub>2</sub> , dry	BAAQMD Cond #14853, part 1 <sup>1</sup>	P/A <sup>1</sup> Effective after approval into SIP	Source test or alternate monitoring plan <sup>1</sup>
CO	BAAQMD 9-8-302.3	N <sup>1</sup>		2000 ppmv @ 15% O <sub>2</sub> , dry	BAAQMD Cond #14853, part 1 <sup>1</sup>	P/A <sup>1</sup> Effective after approval into SIP	Source test or alternate monitoring plan <sup>1</sup>

<sup>1</sup> This condition will become effective after Regulation 9, Rule 8 is approved into the California SIP.

## VII. Applicable Emission Limits & Compliance Monitoring Requirements (continued)

**Table VII-B**  
**S-15, Reciprocating Engine, Digester Gas Fired**

Pollutant	Emission Limit Citation	FE Y/N	Future Effective Date	Emission Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
NOx	BAAQMD 9-8-302.2	N		210 ppmv @ 15% O <sub>2</sub> , dry	Cond 457, Part 4	P/A	Source test or alternate monitoring plan
NOx	BAAQMD Cond 457, Part 1	Y		2 g/hp-hr	Cond 457, Part 4	P/A	Source test or alternate monitoring plan
CO	BAAQMD 9-8-302.3	N		2000 ppmv @ 15% O <sub>2</sub> , dry	Cond 457, Part 4	P/A	Source test or alternate monitoring plan
CO	BAAQMD Cond 457, Part 2	Y		550 lb/day	Cond 457, Part 4	P/A	Source test or alternate monitoring plan

**Table VII-C**  
**S-43, Hot Water Boiler, Digester Gas or Natural Gas Fired**

Pollutant	Emission Limit Citation	FE Y/N	Future Effective Date	Emission Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
NOx	BAAQMD 9-7-301.1	N		30 ppmv @ 3% O <sub>2</sub> , dry		N	
NOx	BAAQMD Cond 9238, Part 2	Y		40 ppmv @ 3% O <sub>2</sub>		N	
CO	BAAQMD 9-7-301.2	N		400 ppmv @ 3% O <sub>2</sub> , dry		N	
CO	BAAQMD Cond 9238, Part 2	Y		100 ppmv @ 15% O <sub>2</sub> ,		N	
Fuel usage	BAAQMD Cond 9238, Part 1	Y		52, 800 mmbtu/yr	BAAQMD Cond 9238, Part 5	P/M	Records

## VII. Applicable Emission Limits & Compliance Monitoring Requirements (continued)

**Table VII-D**  
**S-100, Municipal Wastewater Treatment Plant**  
**S-110, Preliminary Treatment**  
**S-111, Preliminary Treatment, 3 barscreens**  
**S-120, Primary Treatment**  
**S-130, Secondary Treatment**  
**S-135 Secondary Treatment (INKA)**  
**S-140, Secondary Treatment**  
**S-150, Disinfection**  
**S-160 Sludge Handling Processes**  
**S-161, Sludge Handling-Gravity Thickeners**  
**S-162, Sludge Handling-Solids Handling Building**  
**S-163, Sludge Handling-Pumping Station**  
**S-164, Sludge Handling-Gravity Belt Thickeners**  
**S-170, Anaerobic Digester**

Pollutant	Emission Limit Citation	FE Y/N	Future Effective Date	Emission Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
VOC	BAAQMD 8-2-301	Y		15 lb/day & 300 ppm total carbon on dry basis	N	N	N

**Table VI-E**  
**S-101, Gasoline Dispensing Facility**

Pollutant	Emission Limit Citation	FE Y/N	Future Effective Date	Emission Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
VOC	BAAQMD Regulation 8-7-301.2	Y		95% recovery of gasoline vapors		N	

**Table VII-F**  
**S-165, Water Reclamation - 0.25 MGD**

Pollutant	Emission Limit Citation	FE Y/N	Future Effective Date	Emission Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
Waste-water		N		0.25 MGD	BAAQMD Cond 11145	P	daily records

## VIII. TEST METHODS

The test methods associated with the emission limit of a District regulation are generally found in Section 600 of the regulation. The following table indicates only the test methods associated with the emission limits referenced in Section VII - Applicable Emission Limits & Compliance Monitoring Requirements, of this permit.

Applicable Requirement	Description of Requirement	Acceptable Test Methods
BAAQMD 6-301	Ringelmann No. 1 Limitation	Manual of Procedures, Volume I, Evaluation of Visible Emissions
BAAQMD 6-310	Particulate Weight Limitation	Manual of Procedures, Volume IV, ST-15, Particulates Sampling
BAAQMD 8-2-301	Miscellaneous Operations	Manual of Procedures, Volume IV, ST-7, Non-Methane Organic Carbon Sampling or EPA Method 25 or 25A.
BAAQMD Regulation 8-7-301.2	Gasoline Vapor Recovery	BAAQMD Manual of Procedures, Volume IV, ST-36
BAAQMD 9-1-302	General Emission Limitation	Manual of Procedures, Volume IV, ST-19A, Sulfur Dioxide, Continuous Sampling, or ST-19B, Total Sulfur Oxides Integrated Sample
BAAQMD 9-7-301.1	Performance Standard, NO <sub>x</sub> , Gaseous Fuel	Manual of Procedures, Volume IV, ST-13A, Oxides of Nitrogen, Continuous Sampling and ST-14, Oxygen, Continuous Sampling
BAAQMD 9-7-301.2	Performance Standard, CO, Gaseous Fuel	Manual of Procedures, Volume IV, ST-6, Carbon Monoxide, Continuous Sampling and ST-14, Oxygen, Continuous Sampling
BAAQMD 9-8-302.2	Waste Derived Fuel Gas, NO <sub>x</sub> Limits for Lean Burn Engines	Manual of Procedures, Volume IV, ST-13A, Oxides of Nitrogen, Continuous Sampling and ST-14, Oxygen, Continuous Sampling
BAAQMD 9-8-302.3	Waste Derived Fuel Gas, CO Limits	Manual of Procedures, Volume IV, ST-6, Carbon Monoxide, Continuous Sampling and ST-14, Oxygen, Continuous Sampling
BAAQMD Cond #389	Digester Gas Higher Heat Input	ASTM D1826-88 or ASTM D1945-81 with ASTM D3588-89
BAAQMD Cond #457, part 1	NO <sub>x</sub> Limit	Manual of Procedures, Volume IV, ST-13A, Oxides of Nitrogen, Continuous Sampling and ST-14, Oxygen, Continuous Sampling
BAAQMD Cond #457, part 2	CO Limit	Manual of Procedures, Volume IV, ST-6, Carbon Monoxide, Continuous Sampling and ST-14, Oxygen, Continuous Sampling
BAAQMD Cond # 9238	Flue Gas NO <sub>x</sub> Concentrations	Manual of Procedures, Volume IV, ST-13 A
BAAQMD Cond # 9238	Flue Gas CO Concentrations	Manual of Procedures, Volume IV, ST-6 & ST-14

## **IX. GLOSSARY**

### **BAAQMD**

Bay Area Air Quality Management District

### **BACT**

Best Available Control Technology

### **Basis**

The underlying authority which allows the District to impose requirements.

### **CAA**

The federal Clean Air Act

### **CAAQS**

California Ambient Air Quality Standards

### **CEQA**

California Environmental Quality Act

### **CFR**

The Code of Federal Regulations. 40 CFR contains the implementing regulations for federal environmental statutes such as the Clean Air Act. Parts 50-99 of 40 CFR contain the requirements for air pollution programs.

### **Cumulative Increase**

The sum of permitted emissions from each new or modified source since a specified date pursuant to BAAQMD Rule 2-1-403, Permit Conditions (as amended by the District Board on 7/17/91) and SIP Rule 2-1-403, Permit Conditions (as approved by EPA on 6/23/95). Used to determine whether threshold-based requirements are triggered.

### **CO**

Carbon Monoxide

### **Cumulative Increase**

The sum of permitted emissions from each new or modified source since a specified date. Used to determine whether threshold-based requirements are triggered.

### **District**

The Bay Area Air Quality Management District

### **EPA**

The federal Environmental Protection Agency.

## **IX. Glossary (continued)**

### **Excluded**

Not subject to any District Regulations.

### **Federally Enforceable, FE**

All limitations and conditions which are enforceable by the Administrator of the EPA including those requirements developed pursuant to 40 CFR Part 51, subpart I (NSR), Part 52.21 (PSD), Part 60, (NSPS), Part 61, (NESHAPs), Part 63 (HAP), and Part 72 (Permits Regulation, Acid Rain), and also including limitations and conditions contained in operating permits issued under an EPA-approved program that has been incorporated into the SIP.

### **HAP**

Hazardous Air Pollutant. Any pollutant listed pursuant to Section 112(b) of the Act. Also refers to the program mandated by Title I, Section 112, of the Act and implemented by both 40 CFR Part 63, and District Regulation 2, Rule 5.

### **Major Facility**

A facility with potential emissions of regulated air pollutants greater than or equal to 100 tons per year, greater than or equal to 10 tons per year of any single hazardous air pollutant, and/or greater than or equal to 25 tons per year of any combination of hazardous air pollutants, or such lesser quantity as determined by the EPA administrator.

### **MFR**

Major Facility Review. The District's term for the federal operating permit program mandated by Title V of the Act and implemented by District Regulation 2, Rule 6.

### **MOP**

The District's Manual of Procedures.

### **NAAQS**

National Ambient Air Quality Standards

### **NESHAPs**

National Emission Standards for Hazardous Air Pollutants. Contained in 40 CFR Part 61.

### **NMHC**

Non-methane Hydrocarbons

### **NO<sub>x</sub>**

Oxides of nitrogen.

## **IX. Glossary (continued)**

### **NSPS**

Standards of Performance for New Stationary Sources. Federal standards for emissions from new stationary sources. Mandated by Title I, Section 111 of the Act, and implemented by both 40 CFR Part 60 and District Regulation 10.

### **NSR**

New Source Review. A federal program for preconstruction review and permitting of new and modified sources of air pollutants for which the District is classified "non-attainment". Mandated by Title I of the Clean Air Act and implemented by 40 CFR Parts 51 and 52 as well as District Regulation 2, Rule 2. (Note: There are additional NSR requirements mandated by the California Clean Air Act.)

### **Offset Requirement**

A New Source Review requirement to provide federally enforceable emission offsets at a specified ratio for the emissions from a new or modified source and any pre-existing cumulative increase minus any on site contemporaneous emission reduction credits. Applies to emissions of POC, NOx, PM10, and SO2.

### **Phase II Acid Rain Facility**

A facility that generates electricity for sale through fossil-fuel combustion and by virtue of certain other characteristics (defined in Regulation 2, Rule 6) is subject to Titles IV and V of the Clean Air Act.

### **POC**

Precursor Organic Compounds

### **PM**

Total Particulate Matter

### **PM10**

Particulate matter with aerodynamic equivalent diameter of less than or equal to 10 microns

### **PSD**

Prevention of Significant Deterioration. A federal program for permitting new and modified sources of air pollutants for which the District is classified "attainment" of the National Air Ambient Quality Standards. Mandated by Title I of the Act and implemented by both 40 CFR Part 52 and District Regulation 2, Rule 2.

### **SIP**

State Implementation Plan. State and District programs and regulations approved by EPA and developed in order to attain the National Ambient Air Quality Standards. Mandated by Title I



## IX. Glossary (continued)

of the Act.

### **SO<sub>2</sub>**

Sulfur dioxide

### **Title V**

Title V of the federal Clean Air Act. Requires a federally enforceable operating permit program for major and certain other facilities.

### **VOC**

Volatile Organic Compounds

### **Units of Measure:**

bhp	=	brake-horsepower
Btu	=	British Thermal Unit
g	=	grams
gal	=	gallon
hp	=	horsepower
hr	=	hour
lb	=	pound
in	=	inches
max	=	maximum
m <sup>2</sup>	=	square meter
MGD	=	million gallon per day
min	=	minute
MM	=	million
ppmv	=	parts per million, by volume
ppmw	=	parts per million, by weight
psia	=	pounds per square inch, absolute
psig	=	pounds per square inch, gauge
scfm	=	standard cubic feet per minute
yr	=	year

## **X. APPENDIX A - STATE IMPLEMENTATION PLAN**

See Attachment